



Dr. Ambedkar College, Deekshabhoomi, Nagpur

Department of Botany



REPORT

HERBARIUM TECHNIQUES & MAINTENANCE: IN HOUSE TRAINING PROGRAM/ WORKSHOP FOR TEACHING & NON TEACHING STAFF

As an institution grows in terms of size and complexity of its activities, it usually requires enhanced services of professional specialists who will not only have a good grasp of the functional information in the organisation but also an understanding of the sophisticated information supported by various instruments, devices, methodologies, techniques etc.

Keeping this view in mind, Department of Botany has organized “*In house training program: Herbarium Techniques & Maintenance for teaching & non teaching staff members*” on 13/03/2025. **Dr. Subhash R. Somkuwar**, Head, Dept. of Botany and **Dr. Rahul B. Kamble**, Asstt. Prof., Dept. of Botany was the expertise resource person for the training program. They both trained the Teaching and Non teaching Staff members about the various techniques involved in Herbarium Preparation and Maintenance.

Herbaria, collections of preserved plant specimens, are vital for scientific research, particularly in taxonomy, by providing a permanent record of plant species and their characteristics, aiding in identification, and documenting geographic distributions. Herbarium Techniques includes several steps, which are discussed and demonstrated in the training programme.

- **Collection:**
Careful collection of specimens is the first step, including gathering representative parts of the plant (flowers, leaves, stems, etc.).
- **Preparation:**
Specimens are prepared for drying and preservation, which may involve removing excess water, and sometimes, treating them with chemicals to prevent decay.
- **Drying:**
Plants are dried using various methods, such as pressing them between absorbent papers or using specialized drying equipment.
- **Mounting:**
Once dried, specimens are mounted on herbarium sheets, often using acid-free paper and adhesive.
- **Labelling:**
Each specimen is labeled with detailed information, including the plant's scientific name, location of collection, date, and collector's name.
- **Storage:**
Herbarium collections are stored in a controlled environment to prevent damage and deterioration.



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Department of Botany have the good number of Herbarium Collection i.e. more than 1000 which was prepared by students, teaching as well as non teaching staff members. The main problem of herbarium maintenance is the infections of fungal strains due to the moisture, insects pests management etc. To overcome these problems, several solutions and suggestions were incorporated during this training programme.

Herbarium insect pest management:

1) Environmental Control:

- a. Temperature and Humidity: Maintain a stable temperature around 20°C (68°F) and relative humidity below 50% to discourage insect and fungal growth.
- b. Sealed Environment: Ensure the herbarium building is relatively well-sealed to prevent insect entry.

2) Routine Monitoring and Identification:

- a. Regular Inspections: Regularly inspect herbarium collections for signs of infestation, including insect droppings, larvae, or damaged specimens.
- b. Insect Identification: Herbarium staff should be trained to identify common herbarium pests.
- c. Record Keeping: Maintain records of any insects found and the location of infestations.

3) Proactive Pest Control:

- a. Spraying regularly the anti insect pest chemical agents like 2% HgCl_2 solution etc.
- b. Quarantine and Decontamination: Implement strict quarantine procedures for newly acquired specimens, including freezing at temperatures below -18°C (-0°F) for at least two days to kill insects and their eggs.
- c. Fumigation: As a last resort, consider fumigation with pyrethrin-based fumigants, but be mindful of environmental and health concerns.
- d. Freezing: Freezing is a common and effective method for killing insects and their eggs in herbarium specimens.
- e. Integrated Pest Management (IPM): Implement a comprehensive IPM strategy that combines environmental control, monitoring, and targeted pest control measures.

4) Common Herbarium Pests:

- a. Psocids (Booklice): These small insects feed on dried plant material and can cause significant damage.
- b. Silverfish: These insects are attracted to paper and can damage labels and specimens.
- c. Beetles: Several beetle species, including cigarette beetles and herbarium beetles, can infest herbarium collections.
- d. Cockroaches: Cockroaches can damage leather binding, paper, and parchment, and their droppings can stain specimens.
- e. Termites: Termites can damage wooden cabinets and floors, potentially leading to damage of specimens.
- f. Other Pests: Other potential pests include moths, bookworms, and various beetle species.



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Mr. Labhesh Parteti has conducted the session efficiently while Mr. K.D. Pandhare gave formal vote of thanks.

Conclusion: From this type of training programs, it will help the teaching & non teaching staff to discharge their duties efficiently and intelligently.

Following teaching & non teaching staff members were present:

Teaching Staff:

1. Dr. Subhash R. Somkuwar
2. Dr. Rahul B. Kamble
3. Mr. Labhesh B. Parteti
4. Dr. Ashwini Aswar
5. Ms. Shruti Kharwade

Non teaching Staff:

1. Mrs. Rashmi Chaudhary
2. Mr. Kuwarlal Pandhare
3. Mr. Nikhil Chaudhary

Notice

All the Teaching and Non teaching staff members of the Dept. of Botany are hereby informed that, department is organizing the *In house training program: Herbarium Techniques & Maintenance for teaching & non teaching staff members* on **13/03/2025** at 12:00 pm. onwards.

Attendance is strictly mandatory to all.

Dr. S.R. Somkuwar
(Head, Dept. of Botany)



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Some Glimpses of Training Program



